



Docket 28959-7

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re:

Applicant: BRUMBOIU, Aurel et al.

Serial No.: 09/519,741

Group Art Unit: 1743

Filed: March 6, 2000

Examiner: CROSS, LaToya I

For: METHOD FOR DETERMINING THE CONCENTRATION OF GAS IN A LIQUID

Honourable Commissioner of Patents
and Trademarks,
Washington, D.C. 20231,
U.S.A.

Sir:

**RESPONSE to
NOTICE OF ALLOWANCE AND EXAMINERS AMENDMENT**

This is responsive to the Notice of Allowance and Examiner's Amendment of June 30, 2004. In preparation for issuance, please find enclosed:

1. Formal Drawings

New formally prepared drawings are enclosed to replace those presently on file. While drawings were not requested by the USPTO, applicant believes that these drawings will improve the appearance of the issued patent. Therefore, permission is requested to use the substitute drawings for preparation of the letters patent. No new matter has been added.

2. Correction to the Examiner's Amendment

A copy of the Examiner's Amendment is enclosed which has been marked-up to show amendments thereto faxed to and discussed with the Examiner in July, 2004. In a

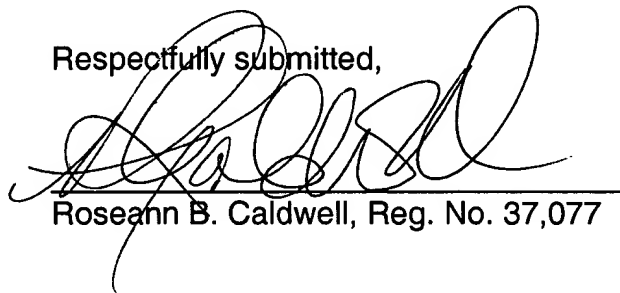
telephone discussion of July 28, 2004, the Examiner indicated that a Supplemental Examiner's Amendment would be issued to address these changes. Applicant has not yet received this supplementary documentation, but applicant hereby requests that these amendments be made in addition to those amendments by the Examiner.

3. Part B – Fees Transmittal

Part B of the Notice of Allowance has been completed and is enclosed.

Favorable consideration is respectfully requested.

Respectfully submitted,



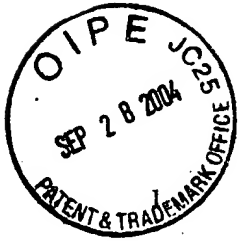
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Date: Sept 27/04

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EXAMINER'S AMENDMENT

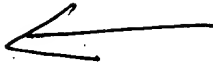
An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Please amend claim 1 as follows:

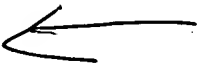
1. A method for determining ~~the response of a gas in liquid concentration measurement device~~ when measuring a concentration a mathematical function representative of measured concentration versus actual concentration of a gas in a liquid when the gas is at a concentration in the liquid above ~~the~~ a solubility threshold for the gas in the liquid, the method comprising:
 - obtaining the solubility threshold for the gas in the liquid;
 - ensuring that the device is calibrated for concentrations of about 0% of the gas in the liquid and about 100% of the gas;
 - using the device to conduct sufficient measurements of the gas concentration at known actual concentrations to permit generation of a first mathematical function representing device-measured concentrations versus actual concentration of the gas in the liquid below the solubility threshold of the gas in the liquid;
 - applying the first mathematical function to deduce a theoretical device-response at about the solubility threshold; and
 - using the theoretical device-response at about the solubility threshold and the device calibrated response at 100% gas concentration to determine ~~a second~~ the mathematical function

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representative of the response of the gas-in-liquid concentration measurement device when the concentration of gas is above the solubility threshold, the ~~second~~ mathematical function defining the device-measured concentration versus actual concentration for the region above the solubility threshold wherein the actual concentration for the region above the solubility threshold includes ~~the~~ a solubilized amount of gas that is solubilized in the liquid and the gas that is present in the bubble state.



Please amend claim 5 as follows:

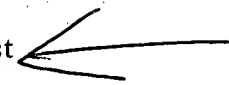
- (5.) The method of claim 1 wherein the first mathematical function and the ~~second~~ mathematical function representative of the response of the gas-in-liquid concentration measurement device ^{each} are linear.
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Please amend claim 6 as follows:

- (6.) The method of claim 1 further comprising generating a correction factor for use with the measurement device, the correction factor being the difference between a value of the first mathematical function or the ~~second~~ mathematical function representative of the response of the gas-in-liquid concentration measurement device and an actual gas concentration corresponding to that value and the difference is recorded and applied to any device-measured concentrations corresponding to the value.

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Please amend claim 7 as follows:

7. The method of claim 1 further comprising generating a correction factor for use with the measurement device, the correction factor being generated as the inverse function^s of the first  mathematical function and the ~~second~~ mathematical function representative of the response of the gas-in-liquid concentration measurement device.

Please amend claim 8 as follows:

8. A method for determining ~~the response of a gas in liquid concentration measurement device when measuring a concentration~~ a mathematical function representative of measured concentration versus actual concentration of a gas in a liquid when the gas is at a concentration in the liquid above ~~the~~ a solubility threshold for the gas in the liquid, the method comprising:

- obtaining the solubility threshold for the gas in the liquid;
- ensuring that the device is calibrated for concentrations of about 0% of the gas in the liquid and about 100% of the gas;
- using the device to conduct sufficient measurements of the gas concentration at known actual concentrations to permit generation of a first mathematical function representing device-measured concentrations versus actual concentration of the gas in the liquid below the solubility threshold of the gas in the liquid;
- determining a measured concentration at about the solubility threshold; and
- using the measured concentration at about the solubility threshold and the device calibrated response at 100% gas concentration to determine ~~a second~~ the mathematical function representative of the ~~response of the gas in liquid concentration measurement device when the gas is in a bubble state in the liquid, the second mathematical function defining device-~~

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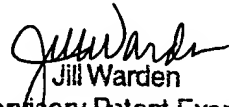
measured concentration versus actual concentration above the solubility threshold when the gas is in a bubble state in the liquid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 571-272-1256. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jill Warden
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